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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/752,467	01/03/2001	Yoshihiro Tsuchiya	826.1661/JDH	1571

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EXAMINER

SHAH, SAUMIL R

ART UNIT	PAPER NUMBER
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2186

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DATE MAILED: 02/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/752,467

Applicant(s)

TSUCHIYA ET AL.

Examiner

Saumil Shah

Art Unit

2186

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 January 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-43 is/are pending in the application.
- 4a) Of the above claim(s) 1-5, 14-24, 26-29, 31-34, 36-39 and 41-43 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 6-13, 25, 30, 35, 40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 January 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Claims 6-13, 25, 30, 35, 40 of Group II in Paper No. 4 is acknowledged.

Specification

2. The disclosure is objected to because of the following informalities:
 - a. The term "summery" on page 3, line 22 should be changed to "summary".
 - b. The term "difference" on page 17, line 5 should be changed to "different".Appropriate correction is required.
3. The applicant's co-operation is requested in correcting further such errors that the applicant may become aware of in the specification.

Claim Objections

4. Claims 8,13 are objected to because of the following informalities:

The word "have" in claim 8, line 5 should be changed to "has".

The term "referrers" in claim 13, line 9 is not clear. Further clarification is requested.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 6-13, 25, 30, 35 and 40 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 6, lines 18-19, it is unclear what "forming data at a backup start point" means.

Similar clarification is required in claim 25 line 17, claim 30 line 17, claim 35 line 12 and claim 40 line 8.

Note claims 7-13 are dependent on claim 6.

Further clarification is required to point out what forming data implies.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 6, 7, 25, 30, 35 and 40 are rejected under 35 U.S.C. 102(b) as being anticipated by Suzuki et al (US Patent No. 5,455,947).

a. With regard to claim 6, Suzuki et al disclose a backup system for backing up a sharing medium shared by a plurality of computers (note column 4, line 26), comprising:

a log management device (note column 4, lines 54-55 where the log file control unit in each computer controls the log file), when any of the plurality of computers accesses the sharing medium, managing original

data before an access occurs as a log, and forming an entire log by gathering logs of two or more computers (note column 4, lines 45-47 where the entire log is saved as a log file); and a formation device forming data at a backup start point using the entire log (note column 4, lines 47-48 where the data base is updated by the log data stored in the log file. Further note column 5, lines 8-11 where the recovery unit performs recovery using the log data i.e., "forming data". Also note, column 10, lines 59-60 and figure 6, where the BOF index unit teaches a backup starting point).

b. With regard to claim 7, Suzuki et al discloses the backup system according to claim 6, further comprising a temporary log storage device temporarily storing each log of the plurality of computers (note column 4, lines 35-39 where the log data buffer temporarily stores each log), wherein the log management device edits each log stored in the temporary log storage device and forms the entire log (note column 4, line 58-64 and column 5, lines 1-4 where the entire log is stored in the log file).

c. With regard to claim 8, Suzuki et al discloses the backup system according to claim 6 wherein when any of the plurality of computers accesses the sharing medium, the log management device receives an access notice from the computer that have accessed the sharing medium, and stores a log of the computer, thereby forming the entire log (note column 8, lines 17-19 where the serializing unit is a part of the log management device).

d. With regard to claim 9, Suzuki et al disclose the backup system according to claim 6 further comprising a backup storage device storing backup data of the sharing medium, wherein the log management device stores the entire log in the backup storage device (note column 10, lines 14-20 where the backup storage device is the log file and it stores the updated data i.e. "backup data of the sharing medium". It also forms the entire log of the sharing medium).

e. With regard to claim 25, Suzuki et al disclose everything as is described for claim 6 above. Furthermore, an application program is used to backup a sharing medium shared by a plurality of computers (note column 8, line 21).

f. With regard to claims 30 and 35, Suzuki et al disclose everything as is described for claim 6 above.

g. With regard to claim 40, Suzuki et al disclose everything as is described for claim 6 above. Furthermore, a propagating signal for propagating a program to a computer is used to backup a sharing medium shared by a plurality of computers (note column 8, lines 21-22 where a transaction terminate macro instruction teaches a signal).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 11,12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al (US Patent No. 5,455,947).

a. With regard to claim 11, Suzuki et al do not explicitly recite the log management device writes the entire log over the backup data, however, this was within the scope of the Suzuki et al operations

Specifically, the log file stores the updated data (backup data) (note column 10, lines 14-20) and so if the updated data is updated again, this means that the backup data has been written over by the further updated data. Also, this updated data is the entire log of the shared medium (note column 10, lines 26-28 where the log data teaches the updated data).

Hence it would have been obvious to one of ordinary skill in the art at the time the invention was made to have added the feature of writing the entire log over the backup data in the system of Suzuki et al since this would have saved memory space and would help organize the backup data more easily. Thus, this would have made the memory management more efficient.

b. With regard to claim 12, Suzuki et al disclose everything except a log storing device storing a log managed by the log management device and address information of backup data over which a log is written, wherein the formation device writes a log over a corresponding backup data based on the address information.

However, the log file stores the updated data (backup data) at a written-to block number (note column 10, lines 14-20) and so if the updated data is updated

again at the same written-to block number, this means that the backup data has been written over by the further updated data at the same block number. Also, this updated data is the entire log of the shared medium (note column 10, lines 26-28 where the log data teaches the updated data).

Hence it would have been obvious to one of ordinary skill in the art at the time the invention was made to have added the feature of writing the entire log over the backup data based on address information in the system of Suzuki et al since this would have saved memory space and would help organize the backup data more easily. Thus, this would have made the memory management more efficient.

11. Claims 10, 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al (US Patent No. 5,455,947) in view of Masuda et al (US Patent no. 6,226,651).

a. With regard to claim 10, Suzuki et al disclose everything except a backup storage device storing backup data of the shared medium and a log storage device storing the entire log.

Masuda et al teach a backup system comprising a backup storage device storing backup data of the shared medium and a log storage device storing the entire log (note column 4, line 67 and column 5, lines 1-6 where the log is stored at the primary site. Further note figure 1, 108 that is the database backup and 105 that is the log storage device).

Hence it would have been obvious to one of ordinary skill in the art at the time the invention was made to have a backup storage device storing backup data of the shared medium and a log storage device storing the entire log as taught by Masuda et al. in the invention of Suzuki et al. since this would have increased the memory backup space and thus would have recovered the data from a fault more reliably. Thus, this would have made the combined invention more fault tolerant.

b. With regard to claim 13, Suzuki et al disclose everything except in a case that the entire log is not written over backup data of the sharing medium, the formation device refers to the entire log first, and the backup data later if necessary.

Masuda et al teaches a system in which in a case that the entire log is not written over backup data of the sharing medium, the formation device refers to the entire log first (note column 9, lines 6-9), and the backup data later if necessary (note column 9, lines 39-41 where the shadow database data (backup data) is made up-to-date using a recovery cycle).

Hence it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the entire log first and the backup data later if necessary since this would have made the recovery process faster and more efficient as only the log is referred to. Use of the backup data is only made if the log is not sufficient to recover completely, making the recovery process

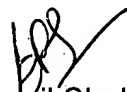
simpler. Thus, speed, efficiency and simplicity of the recovery process are the main benefits.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Saumil Shah whose telephone number is 703-305-8786.


The examiner can normally be reached on 9:00 AM to 5:30 PM M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matt Kim can be reached on 703-305-3821. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Saumil Shah
Patent Examiner
Art Unit: 2186

February 11, 2004


BEHZAD JAMES PEIKARI
PRIMARY EXAMINER